

CLAIMS

1. A protein or a salt thereof which has an amino acid identical to or substantially identical to an amino acid sequence represented by SEQ ID No: 2.
2. The protein or a salt thereof according to claim 1, which has an amino acid identical to or substantial identical to an amino acid represented by SEQ ID No: 2 as a disintegrin region.
3. The protein or a salt thereof according to claim 1, which belongs to an ADAM family.
4. The protein or a salt thereof according to claim 1, which has an amino acid sequence identical or substantially identical to an amino acid sequence represented by SEQ ID No: 1 or SEQ ID No: 15.
5. The protein or a salt thereof according to claim 1, which has a protease activity.
6. A partial peptide of the protein according to claim 1, which has an amino acid sequence identical or substantially identical to an amino acid sequence represented by SEQ ID No: 6, or a salt thereof.
7. A DNA which has a DNA having a base sequence encoding a protein having an amino acid sequence identical or substantially identical to an amino acid sequence represented by SEQ ID No: 2.
8. The DNA according to claim 7, which has a base sequence represented by SEQ ID No: 3 or SEQ ID No: 16.
9. A DNA which has a DNA encoding the partial peptide according to claim 6.
10. The DNA according to claim 9, which has a base sequence represented by SEQ ID No: 4.
11. A recombinant vector which has the DNA according to claim 7.
12. A transformant transformed with the recombinant vector according to claim 11.
13. A method for producing the protein or a salt according

to claim 1, which comprises culturing the transformant according to claim 12 to produce the protein according to claim 1.

14. An antibody against the protein or a salt thereof according to claim 1 or the partial peptide or a salt thereof according to claim 6.

15. A diagnostic agent which comprises the DNA according to claim 7 or the antibody according to claim 14.

16. An agent which comprises the protein or a salt thereof according to claim 1 or the partial peptide or a salt thereof according to claim 6.

17. A medicine which comprises the protein or a salt thereof according to claim 1 or the partial peptide or a salt thereof according to claim 6.

18. The medicine according to claim 17, which is an agent for preventing or treating disc herniation, ischialgia, glomerular nephritis, diabetic nephropathy, hepatic fibrosis, pulmonary fibrosis or osteopetrosis.

19. A method for screening for a compound or a salt thereof which promotes or inhibits the protease activity, which comprises using the protein according to claim 1 or a salt thereof.

20. A kit for screening for a compound or a salt thereof which promotes or inhibits the protease activity, which comprises the protein according to claim 1 or a salt thereof.

21. A compound or a salt thereof which promotes or inhibits the protease activity and is obtainable by using the method for screening according to claim 19 or the kit for screening according to claim 20.

22. A medicine which comprises a compound or a salt thereof which promotes or inhibits the protease activity and is obtainable by the screening method according to claim 19 or the kit for screening according to claim 20.

23. An agent for degrading an extracellular matrix, which comprises a protein having an amino acid identical or substantially identical to an amino acid sequence represented by SEQ ID No: 5, or a salt thereof.

24. The agent according to claim 23, wherein the

extracellular matrix is a proteoglycan,

25. The agent according to claim 23, which is a pharmaceutical composition.

26. The agent according to claim 23, which is an agent for preventing or treating disc herniation, ischialgia, glomerular nephritis, diabetic nephropathy, hepatic fibrosis, pulmonary fibrosis or osteopetrosis.

27. A method for screening for a compound or a salt thereof which promotes or inhibits the extracellular matrix degrading enzyme activity, which comprises using a protein having an amino acid sequence identical or substantially identical to an amino acid sequence represented by SEQ ID No: 5, or a salt thereof.

28. A kit for screening for a compound or a salt thereof which promotes or inhibits the extracellular matrix degrading enzyme activity, which comprises a protein having an amino acid sequence identical or substantially identical to an amino acid sequence represented by SEQ ID No: 5, or a salt thereof.

29. A compound or a salt thereof which promotes or inhibits the extracellular matrix degrading enzyme activity, and is obtainable by using the method for screening according to claim 27 or the kit for screening according to claim 28.

30. A medicine which comprises a compound or a salt thereof which promotes or inhibits the extracellular matrix degrading enzyme activity, and is obtainable by using the method for screening according to claim 27 or the kit for screening according to claim 28.

31. A diagnostic agent which comprises an antibody against a protein having an amino acid sequence identical or substantially identical to an amino acid sequence represented by SEQ ID No: 5, or a salt thereof.

32. A method for detecting a proteoglycan degrading enzyme gene, which comprises mixing and culturing a transformant in which a test gene is introduced and an animal-derived cell producing cartilage or cartilage matrix, and measuring glycosaminoglycan sulfate in the culture supernatant.

33. A method for screening an agent for inhibiting or

promoting the proteoglycan degrading enzyme activity, which comprises mixing and culturing (i) a recombinant in which a gene encoding a protein having the proteoglycan degrading enzyme activity is introduced, (ii) an animal-derived cell producing cartilage or cartilage matrix, and (iii) a test compound, and measuring glycosaminoglycan sulfate in the culture supernatant.

34. A method for screening an agent for inhibiting or promoting the activity of proteoglycan degrading enzyme, which comprises mixing and culturing (i) an animal cell comprising (a) the DNA according to claim 7, or (b) a DNA comprising a DNA having a base sequence encoding a protein having an amino acid sequence identical or substantially identical to an amino acid sequence represented by SEQ ID No: 5, (ii) an animal-derived cell producing cartilage or cartilage matrix, and (iii) a test compound, and measuring an amount of glycosaminoglycon sulfate in the supernatant.

35. A non-human mammal which has a DNA having a DNA having a base sequence encoding an protein having an amino acid sequence identical or substantially identical to an amino acid sequence represented by SEQ ID No: 2, or a its mutated DNA.

36. The animal according to claim 35, which may express a protein having an amino acid sequence identical or substantially identical to an amino acid sequence represented by SEQ ID No: 2.